

State of Matter MCQ Question Answer

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Question: 1. 22.4 litre of any gas at N.T.P. will contain

- Option A. One gram equivalent
- Option B. One gram atomic weight
- Option C. One gram atom
- Option D. One gram molecule

Question: 2. The vol. of 20 gm. of hydrogen at N.T.P. is

- Option A. 22.4 litres
- Option B. 112 litres
- Option C. 12 litres
- Option D. 224 litres

Question: 3. The V.D. of a gas is 11.2 gm. The volume occupied by 11.2 gm. of this gas at N.T.P. is

- Option A. 12 litre
- Option B. 11.2 litres
- Option C. 2.24 litres
- Option D. 22.4 litres

Question: 4. If the temperature and pressure remain unchanged the volume of O_2 obtained by the decomposition of a certain volume of SO_2 will be

- Option A. Triple the volume of SO_2
- Option B. Half the volume of SO_2
- Option C. Equal to the volume of SO_2
- Option D. One third the volume of SO_2

Question: 5. According to Avogadro's hypothesis equal volumes of two gases under the same conditions of temperature and pressure contain

- Option A. Equal number of electrons
- Option B. Equal number of ions
- Option C. Equal number of atoms
- Option D. Equal number of molecules

Question: 6. The vapour density of a gas is 11.2. The volume occupied by 2.4 g of the gas at S.T.P. will be

- Option A. 2.4 litres
- Option B. 3.6 litres
- Option C. 2.24 litres

Option D. 11.2 liters

Question: 7. The number of molecules of CO_2 present in 44 gms. of CO_2 is

Option A. 6×10^{23} approx

Option B. 10^{30} approx

Option C. 3×10^{10} approx

Option D. 12×10^{23} approx

Question: 8. One gram molecule of a gas at N.T.P occupies 22.4 litres. This fact was derived from

Option A. Benjamin hypothesis

Option B. Avogadro's hypothesis

Option C. Dalton's theory

Option D. Law of atomic volume

Question: 9. The relation between molecular wt. and vapour density is

Option A. Molecular wt. = $\frac{2}{3}$ V.D.

Option B. Molecular wt. = $\frac{1}{3}$ V.D.

Option C. Molecular wt. = V.D.

Option D. Molecular wt = $2 \times$ V.D.

Question: 10. The vol. of 20 gms of nitrogen at N.T.P.

Option A. 16 litres

Option B. 36 litres

Option C. 8 litre

Option D. 32 litres

Question: 11. The wt. of 2.8 litres of a gas at N.T.P. is 3.50 gms. Its V.D. is

Option A. 20

Option B. 28

Option C. 32

Option D. 14

Question: 12. Which of the following phrases would be incorrect to use?

Option A. An atom of an element

Option B. An atom of a compound

Option C. A molecule of a compound

Option D. A molecule of an element

Question: 13. The vapour density of a gas is 35.5. The volume occupied by 3.55 gms of the gas at

N.T.P. is

Option A. 224 litres

Option B. 2.24 litres

Option C. 11.12 litres

Option D. 1.12 litres

Question: 14. The number of N_2 molecules present in 28 nitrogen is

Option A. 2×10

Option B. 6×10^{22}

Option C. 6×10^{23} approximately

Option D. 5×10^{30} approximately

Question: 15. What will be the mass of 6.03×10^{23} molecules of carbon monoxide ?

Option A. 18.00

Option B. 28.01

Option C. 56.02

Option D. 14.05

Question: 16. Four 1 litre flasks are separately filled with the gases hydrogen, helium, oxygen and ozone at the same temperature and pressure, the ratio of total number of atoms of these gases present in the different flasks would be

Option A. 3:2:2:1

Option B. 2:1:2:3

Option C. 1:2:2:3

Option D. 1:1:1:1

Question: 17. Which of the following contains the same number of atoms as 12 gms: of Magnesium (Atomic weights : Mg = 24, C = 12, Ca = 40)

Option A. 10 gms of calcium

Option B. 20 gms of carbon

Option C. 20 gms of calcium

Option D. 12 gms of carbon

Question: 18. The vapour density of pure ozone would be

Option A. 32

Option B. 8

Option C. 12

Option D. 24

Question: 19. The number of molecules in 32 gms of oxygen in

Option A. 6.02×10^{10}

Option B. 3.2×10^{23}

Option C. 6.02×10^{22}

Option D. 32×10^{10}

Question: 20. How many moles of water are present in 180 gm. of water ?

Option A. 11

Option B. 5

Option C. 90

Option D. 21

Question: 21. The vapour density of completely dissociated NH₄Cl would be

Option A. Determined by the amount of solid NH₄Cl used in the experiment

Option B. Triple to that of NH₄Cl

Option C. Half of that NH₄Cl

Option D. Slightly less than half of that of NH₄Cl

Question: 22. 22.4 litres of SO₂ at 27.3°C and 1 atmosphere pressure shall weigh

Option A. 32 g

Option B. 16 g

Option C. 44.8 g

Option D. 48.5 g

Question: 23. Certain volume of a gas exerts on its walls some pressure at a particular temperature. It has been found that by reducing the volume of the gas to half its original value, the pressure becomes I twice that the initial value of constant temperature. This happens because

Option A. More number of a gas molecules strike the surface per second

Option B. Velocity of the gas molecules increases

Option C. Gas molecules attract each other

Option D. Weight of the gas increase with volume

Question: 24. One mole of gas is defined as

Option A. The number of molecules in 22.4 litres of gas at S.T.P

Option B. The number of molecules contained | in 6 grams of ¹²C isotope

Option C. The number of molecules in one formula weight of gas

Option D. The number of molecules in litre of gas

Question: 25. 5. At a given temperature and pressure 2 volumes of A combine with 5 volumes of B to form 2 volumes of C and 1 volume. A combine with one volume of B to form 2 volumes of D. The formula of C is

Option A. A₃B₆

Option B. $\sqrt{AB}$

Option C. A_2B_5

Option D. AB_5

Question: 26. The number of molecules in 4.25 g of ammonia are approximately

Option A. 3.5×10^{23}

Option B. 2.5×10^{23}

Option C. 1.5×10^{23}

Option D. 0.5×10^{23}

Question: 27. 20 litres of hydrogen gas weighs about

Option A. 1.8 g

Option B. 3.6 g

Option C. 224 g

Option D. 12.2 g

Question: 28. The number of atoms in 0.004 gm of magnesium is close to

Option A. 36×10^5

Option B. 10^{20}

Option C. 5×10^{20}

Option D. 6.02×10^{23}

Question: 29. The vapour density of ozone would be

Option A. 72

Option B. 8

Option C. 48

Option D. 24

Question: 30. The weight of 11.2 litres of CO_2 at S.T.P. would be

Option A. 22 gms

Option B. 66 gms

Option C. 11 gms

Option D. 16 gms

Answer Sheet

1	D	
2	A	
3	A	
4	C	
5	D	
6	D	
7	B	
8	C	
9	A	
10	C	
11	A	
12	C	
13	A	
14	C	
15	B	
16	C	
17	C	
18	B	
19	A	
20	D	
21	C	
22	D	
23	C	
24	C	
25	B	
26	D	
27	A	
28	B	
29	C	